

**Polynuclear Aromatic Hydrocarbon  
Sample Data Summary Package Cover Sheet**

**Client:** FOSTER WHEELER  
**Project:** ROXANNA MARSH  
**SDG:** 920866C

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## Case Narrative

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**Client** FOSTER WHEELER  
**Project Name** ROXANNA MARSH  
**Project Number** 1980.0208.0100  
**SDG** 920866C  
**Fraction** BNA

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Lab Number	Sample ID	Collect Date	Rec Date	Matrix
920866-053	FW-RM-16-CS-0.7-2.0	3/21/2002	3/22/2002	SOIL
920866-054	FW-RM-16-CS-2.0-3.5	3/21/2002	3/22/2002	SOIL
920866-056	FW-RM-06-CS-0.7-2.3	3/21/2002	3/22/2002	SOIL
920866-057	FW-RM-06-CS-2.8-4.7	3/21/2002	3/22/2002	SOIL
920866-058	FW-RM-11-CS-0.7-2.4	3/21/2002	3/22/2002	SOIL
920866-059	FW-RM-11-CS-2.4-4.2	3/21/2002	3/22/2002	SOIL
920866-061	FW-RM-14-CS-0.7-2.0	3/21/2002	3/22/2002	SOIL
920866-062	FW-RM-14-CS-2.0-3.8	3/21/2002	3/22/2002	SOIL
920866-073	FW-RM-16-CS-0.7-2.0MS	3/21/2002	3/22/2002	SOIL
920866-074	FW-RM-16-CS-0.7-2.0MSD	3/21/2002	3/22/2002	SOIL
920866-075	MB4920866			SOIL
920866-076	MB4920866LCS			SOIL
920866-077	MB4920866LCSD			SOIL

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**EN CHEM, INC**  
**CASE NARRATIVE - PAHs by GC/MS**

**Lab Report Number (SDG):** 920866C

**Client:** FOSTER WHEELER

**Project Name:** ROXANNA MARSH

**Project Number:** 1980.0208.0100

**1. RECEIPT**

The samples were received on ice.

**2. HOLDING TIMES**

F. **Sample Preparation:** All method holding times were met.

G. **Sample Analysis:** All method holding times were met.

**3. METHOD**

**Preparation:** SW-846 3550B

**Analysis:** SW-846 8270C

**4. PREPARATION**

Sample preparation proceeded normally.

**5. ANALYSIS**

**A. Calibration:**

1. **GC/MS Tune:** All method acceptance criteria were met.

2. **Initial verification:** The method acceptance criteria were met for all CCC and SPCC compounds.

3. **Continuing verification:** The method acceptance criteria were met for all CCC and SPCC compounds.

**B. Blanks:**

1. **Method:** All in-house acceptance criteria were met

**C. Surrogates:** All surrogate recoveries met the in-house acceptance criteria.

**D. Spikes:**

1. **Lab Control Spike/Laboratory Control Spike Duplicate (LCS/LCSD):** The laboratory control spike (MB4920866LCS) and laboratory control spike duplicate (MB4920866LCSD) associated to this SDG met all in-house accuracy and precision criteria.

2. **Matrix Spike / Matrix Spike Duplicate (MS/MSD):** Sample FW-RM-16-CS-0.7-2.0 was designated as the matrix spike sample for this SDG. All in-house accuracy and precision criteria were met.

**E. Internal Standards:** All in-house acceptance criteria were met.

**F. Samples:** Sample analyses proceeded normally.

**G. Dilutions:** No sample dilutions were required for this SDG. Sample results were reported to the laboratory method-detection limit (MDL) to be consistent with all other SDGs reported for this project.

**H. Reanalysis:** None reported for this SDG.

**I. Comments:** None.

I certify that this data package is in compliance with the terms and conditions agreed to by **En Chem, Inc.** and by the client, both technically and for completeness, except for the conditions detailed above. The Laboratory Manager or his designee, as verified by the following signature, has authorized release of the data contained in this hard copy data package and in the computer-readable data submitted on diskette:

Signed: *Lynn M Dieffenbach* Date: 4/23/02  
Name: Lynn M Dieffenbach Position: Project Manager

**Organic Data Qualifiers**

- B Analyte is present in the method blank. Method blank criteria is evaluated to the laboratory method detection limit. Additionally, method blank acceptance may be based on project specific criteria or determined from analyte concentrations in the sample and are evaluated on a sample by sample basis.
- C Elevated detection limit (see Sample Narrative).
- D Analyte value from diluted analysis.
- E Analyte concentration exceeds calibration range (see Sample Narrative).
- F Surrogate results outside control criteria or not available due to sample dilution.
- H(n) Extraction or analysis performed "n" days past holding time.
- J Qualitative evidence of analyte present: concentration detected is greater than the method detection limit but less than the reporting limit.
- K Detection limit may be elevated due to the presence of an unrequested analyte (see Sample Narrative).
- N Spiked sample recovery not within control limits.
- P The relative percent difference between the two columns for detected concentrations was greater than 40%.
- Q The analyte has been detected between the limit of detection (LOD) and limit of quantitation (LOQ). The results are qualified due to the uncertainty of analyte concentrations within this range.
- S The relative percent difference between quantitation and confirmation columns exceeds internal quality control criteria. Because the result is unconfirmed, it has been reported as a non-detect with an elevated detection limit.
- U The analyte was not detected above the reporting limit.
- W Sample received with headspace.
- X See Sample Narrative.
- & Laboratory Control Spike recovery not within control limits.
- \* Duplicate analyses not within control limits.
- SUB1 Assay was subcontracted to an approved lab.
- SUB2 Assay was subcontracted to En Chem Green Bay WI Cert. #405132750.

(Please Print Legibly) *Foster White*  
 Company Name: *Denver*  
 Branch or Location: *1980 Fair Mass*  
 Project Contact: *303-980-3579*  
 Telephone: *1980-2208-0100*  
 Project Number: *Lexington Marsh*  
 Project Name: *Tadarian*  
 Project State: *Bob Feldgansch*  
 Sampled By (Print):

LABORATORY ID (Lab Use Only)	FIELD ID	Regulatory Program	COLLECTION		Matrix Codes
			DATE	TIME	
12086-001	FW-RM-11-SS	UST	3-20-02	09:17	S
002	FW-RM-14-SS-05-08-23-48	RCRA	3-19	15:00	
003	FW-RM-23-SS-08-23	SDWA	3-19	15:30	
006	FW-RM-20-SS	NPDDES	3-20	11:03	
007	FW-RM-14-SS	CERCLA	3-20	09:55	
008	FW-RM-21-SS		3-20	11:30	
009	FW-RM-19-SS		3-20	10:58	
010	FW-RM-18-SS		3-20	10:15	
011	FW-RM-13-SS		3-20	11:30	
<i>012</i>					
<i>014</i>					

Rush Turnaround Time Requested (TAT) - Prelim  
 (Rush TAT subject to approval/surcharge)  
 Date Needed:  
 Transmit Prelim Rush Results by (circle):  
 Phone Fax E-Mail  
 Phone #:  
 Fax #:  
 E-Mail Address:  
 Samples on HOLD are subject to special pricing and release of liability

**EN CHEM INC.**  
 1241 Bellevue St., Suite 9  
 Green Bay, WI 54302  
 920-469-2438  
 FAX 920-469-8827

**CHAIN OF CUSTODY** 78316

Page 1 of 1  
 P.O. # \_\_\_\_\_ Quote # \_\_\_\_\_  
 Mail Report To: *Fair Mass*  
 Company: *FWENC*  
 Address: *1473 Glendon Blvd*  
*St. Louis, MO 63103*  
 Invoice To: *Gary Brown*  
 Company: *FWENC*  
 Address: *12100 NE 195th St*  
*Bellevue, WA 98011*

Matrix Codes: W-Water, S-Soil, A-Air, C-Chemical, B-Biota, Sl-Sludge  
 Regulatory Program: UST, RCRA, SDWA, NPDDES, CERCLA  
 Data Package Options: (please circle if requested)  
 Results Only  
 EnChem Level III (Subject to Surcharge)  
 EnChem Level IV (Subject to Surcharge)

ANALYSES REQUESTED: *PCB, PAH, TOC, LAS, SEM*  
 PRESERVATION (CODE):  
 A=None, B=HCL, C=H2SO4, D=HNO3, E=EnCore, F=Methanol, G=NaOH  
 FILTERED? (YES/NO) \_\_\_\_\_  
 GAIN: *3.26*  
 TOTAL # OF BOTTLES SENT: \_\_\_\_\_

CLIENT COMMENTS: *include lab. QC*  
 LAB COMMENTS: (Lab Use Only)

Received By: *Fed Ex* Date/Time: *3-21-02 12:18*  
 Received By: *John Chouin* Date/Time: *3/22/02 1030*  
 Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

En Chem Project No. *920866*  
 Sample Receipt Temp. *3/22/02 1030*  
 Sample Receipt PH *OK*  
 Cooler Custody Seal *Present*  
 Intact/Not Intact *Intact*

525 Science Drive  
 Madison, WI 53711  
 608-232-3300  
 FAX: 608-233-0502



(Please Print Legibly)

Company Name: Foster Wheeler  
 Branch or Location: Denver  
 Project Contact: Paul Mass  
 Telephone: 303-980-3579  
 Project Number: 1980.0203.0100  
 Project Name: Exams Marsh  
 Project State: Indiana  
 Sampled By (Print): Bob Feldman

**Data Package Options**  
 (please circle if requested)  
 Results Only  
 EnChem Level III (Subject to Surcharge)  
 EnChem Level IV (Subject to Surcharge)

LABORATORY ID (Lab Use Only)	FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
920866-013	FW-RM-05-05-4	3-19	15:20	S
014	FW-RM-07-05-5470	3-19	15:40	S
015	FW-RM-07-05-26-54	3-19	15:40	S
016	FW-RM-07-05-26-54	3-19	15:40	S
017	FW-RM-20-05-08-24	3-20	17:30	S
018	FW-RM-10-05-05-7	3-20	15:05	S

Regulatory Program	Matrix Codes
UST	W-Water
RCRA	S-Soil
SDWA	A-Air
NPDES	C-Charcoal
CERCLA	B-Biota
	SI-Sludge

**CHAIN OF CUSTODY** 78324

ANALYSES REQUESTED: PCB / OC / PAH / PAH / ORG / SIZ

GRAN SIZE: PCRA / OC / PAH / PAH / ORG / SIZ

REGISTRATION CODES: PCRA / OC / PAH / PAH / ORG / SIZ

PREPARATION CODES: PCRA / OC / PAH / PAH / ORG / SIZ

Filteration? (YES/NO) None

Preservation (Code) A A A

En Chem Project No. 920866

Sample Receipt Temp. 32.33 / 14.3 ROT

Sample Receipt pH / (Wet/Metal) OK

Cooler Custody Seal Present / Not Present

Intact / Not Intact Intact

Company: Foster Wheeler  
 Address: Lake Wood, CO  
 Invoice To: Gary Brown  
 Company: FWERC  
 Address: Bothell, WA

Client Comments: Archive

Lab Comments: Archive

Client Comments: Archive

Lab Comments: Archive

Received By: Fed Ex Date/Time: 3-21-02 12:15

Relinquished By: Bob Feldman Date/Time: 3-22-02 10:30

Received By: Ky - Chavez Date/Time: 3/22/02 1030

Relinquished By: Fed Ex Date/Time: 3/22/02 1030

1241 Bellevue St., Suite 9  
 Green Bay, WI 54302  
 920-469-2498  
 FAX 920-469-8827

**EN CHEM**  
 INC.

629 Science Drive  
 Madison, WI 53711  
 608-252-3300  
 FAX: 608-253-0802

1241 Bellevue St., Suite 9  
 Green Bay, WI 54302  
 920-469-2498  
 FAX 920-469-8827

Company: Foster Wheeler  
 Address: Lake Wood, CO  
 Invoice To: Gary Brown  
 Company: FWERC  
 Address: Bothell, WA

Client Comments: Archive

Lab Comments: Archive

Client Comments: Archive

Lab Comments: Archive

Received By: Fed Ex Date/Time: 3-21-02 12:15

Relinquished By: Bob Feldman Date/Time: 3-22-02 10:30

Received By: Ky - Chavez Date/Time: 3/22/02 1030

Relinquished By: Fed Ex Date/Time: 3/22/02 1030

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 INC.

629 Science Drive  
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Company: Foster Wheeler  
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Lab Comments: Archive

Client Comments: Archive

Lab Comments: Archive

Received By: Fed Ex Date/Time: 3-21-02 12:15

Relinquished By: Bob Feldman Date/Time: 3-22-02 10:30

Received By: Ky - Chavez Date/Time: 3/22/02 1030

Relinquished By: Fed Ex Date/Time: 3/22/02 1030

(Please Print Legibly)

Company Name: Foster Wheeler  
 Branch or Location: Durbin  
 Project Contact: Pam Moss  
 Telephone: 303-980-3579  
 Project Number: 1980.0008.0100  
 Project Name: Roxana Marsh  
 Project State: Indiana  
 Sampled By (Print): Bob Feldpusch

**Data Package Options**  
 (please circle if requested)  
 Results Only  
 EnChem Level III (Subject to Surcharge)  
 EnChem Level IV (Subject to Surcharge)

LABORATORY ID (Lab Use Only)	FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
92086-019	FW-011-21-05-36-56	3-21	1402	S
020	FW-011-01-05-36-56	3-21	1402	S
021	FW-011-21-05-70-90	3-21	1402	S
022	FW-011-01-05-70-90	3-21	1402	S

Regulatory Program  
 UST  
 RCRA  
 SDWA  
 NPDES  
 CERCLA

Matrix Codes  
 W-Water  
 S-Soil  
 A-Air  
 C-Charcoal  
 B-Biota  
 SI-Sludge

# EN CHEM INC.

1241 Bellevue St., Suite 9  
 Green Bay, WI 54302  
 920-469-2436  
 FAX 920-469-8927

926 Science Drive  
 Madison, WI 53711  
 608-232-3300  
 FAX: 608-233-0802

## CHAIN OF CUSTODY

78325

A=None B=HCL C=H2SO4 D=HNO3 E=EnCore  
 H= Sodium Bisulfate Solution I= Other  
 FILTERED? (YES/NO)  
 PRESERVATION (CODE)

Page 1 of 1  
 P.O. # Quote #  
 Mail Report To: Pam Moss  
 Company: FWENIC  
 Address: Lakeview, CO  
 Invoice To: Gary Brown  
 Company: FWENIC  
 Address: 600 Hill, WI

ANALYSES REQUESTED  
 FOR THE RUSH TAT (Lab Use Only)  
 FOR THE RUSH TAT (Lab Use Only)  
 TOTAL # OF BOTTLES SENT

CLIENT COMMENTS (Lab Use Only)	LAB COMMENTS (Lab Use Only)
4	
4	
4	
4	

**Rush Turnaround Time Requested (TAT) - Prelim**  
 (Rush TAT subject to approval/surcharge)  
 Date Needed: \_\_\_\_\_

Transmit Prelim Rush Results by (circle):  
 Phone \_\_\_\_\_ Fax \_\_\_\_\_ E-Mail \_\_\_\_\_  
 Phone #: \_\_\_\_\_  
 Fax #: \_\_\_\_\_  
 E-Mail Address: \_\_\_\_\_

Samples on HOLD are subject to special pricing and release of liability

Relinquished By: [Signature] Date/Time: 3-21-02 16:55  
 Relinquished By: Fed Ex Date/Time: 3-22-02 10:30  
 Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received By: Fed Ex Date/Time: \_\_\_\_\_  
 Received By: Ryan Chowas Date/Time: 3/22/02 1030  
 Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

En Chem Project No. 92086  
 Sample Receipt Temp. 32.33, 14.3 RUI  
 Sample Receipt pH OK  
 Cooler Custody Sign OK  
 Present / Not Present Present  
 Intact / Not Intact Intact





(Please Print Legibly)

Company Name: Foster Wheeler  
 Branch or Location: Deer  
 Project Contact: Fan Moss  
 Telephone: 303-980-3519  
 Project Number: 1980.0008.0900  
 Project Name: Reagan Marsh  
 Project State: Indiana  
 Sampled By (Print): Bob Feldpausch

**Data Package Options**  
 (please circle if requested)  
 Results Only  
 EnChem Level III (Subject to Surcharge)  
 EnChem Level IV (Subject to Surcharge)

LABORATORY ID (Lab Use Only)	FIELD ID	REGULATORY PROGRAM		MATRIX	
		DATE	TIME	W-Water S-Soil A-Air C-Charcoal B-Biota Sl-Sludge	MATRIX
920866-045	FW-PM-02-05-01-52	3-20	12:20	S	
046	FW-PM-02-05-01-52	3-20	12:22	S	

Regulatory Program  
 USE RCRA SDWA NPDES CERCLA

# CHAIN OF CUSTODY

78317

Page 2 of 2

\*Preservation Codes  
 D-HNO3 E-Encore  
 L-Other

A=None B-HCL C-H2SO4  
 H= Sodium Bisulfate Solution  
 FILTERED? (YES/NO)

PRESERVATION (CODE)\*

F-Methanol G-NaOH

Mail Report To: Fan Moss

Company: FWENC

Address: Lebanon, CO

Invoice To: Gary Braun

Company: FWENC

Address: Boothell, WI

Mail Invoice To:

TOTAL # OF BOTTLES SENT

ANALYSES REQUESTED

CLIENT COMMENTS

LAB COMMENTS  
(Lab Use Only)

4  
4

Rush Turnaround Time Requested (TAT) - Prelim  
 (Rush TAT subject to approval/surcharge)  
 Date Needed:

Transmit Prelim Rush Results by (circle):  
 Phone Fax E-Mail

Phone #:

Fax #:

E-Mail Address:

Samples on HOLD are subject to special pricing and release of liability

Relinquished By: [Signature]

Relinquished By: Fed Ex

Relinquished By:

Relinquished By:

Relinquished By:

Received By: Fed Ex

Received By: Ryan Chasen

Received By:

Received By:

Received By:

Date/Time: 3/21/02 12:36

Date/Time: 3/22/02 10:30

Date/Time:

Date/Time:

Date/Time:

En Chem Project No. 920866

Sample Receipt Temp. 32.33/43 ROI

Sample Receipt pH 7.7/7.1

(Weib/Metals) OK

Cooler Custody Seal

Preserved / Not Present Preserved

Intact / Not Intact Intact

(Please Print Legibly)

Company Name: Foster Wheeler  
 Branch or Location: Danvers  
 Project Contact: Paul Moss  
 Telephone: 303-980-3579  
 Project Number: 1980-0208-0102  
 Project Name: Coxsack Marsh  
 Project State: Indiana  
 Sampled By (Print): Bob Feldpausch

**Data Package Options**  
 (please circle if requested)  
 Results Only  
 EnChem Level III (Subject to Surcharge)  
 EnChem Level IV (Subject to Surcharge)

LABORATORY ID (Lab Use Only)	FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
920866-047	FW-RM-19-CS-0040	3-21	0820	S
048	FW-RM-19-CS-4059	3-21	0820	S
049	FW-RM-19-CS-017-20	3-21	0820	S
050	FW-RM-18-CS-0.7-2.3	3-21	0820	S
051	FW-RM-18-CS-2.3-4.3	3-21	0820	S
052	FW-RM-18-CS-4.3-2.3	3-21	0820	S
053	FW-RM-16-CS-0.7-2.0	3-21	1145	S
054	FW-RM-16-CS-2.0-3.5	3-21	1145	S
055	FW-RM-16-CS-3.5-5.3-6.5	3-21	1145	S

Rush Turnaround Time Requested (TAT) - Prelim  
 (Rush TAT subject to approval/surcharge)  
 Date Needed:

Transmit Prelim Rush Results by (circle):  
 Phone Fax E-Mail

Phone #:  
 Fax #:  
 E-Mail Address:

Samples on HOLD are subject to special pricing and release of liability

# EN CHEM INC.

1241 Bellevue St., Suite 9  
 Green Bay, WI 54302  
 920-469-2438  
 FAX 920-469-8827

526 Science Drive  
 Madison, WI 53711  
 608-232-3300  
 FAX: 608-233-0802

## CHAIN OF CUSTODY

78318

\*Preservation Codes  
 C-H2SO4 E-EnCore  
 D-HNO3 L-Other  
 F-Methanol G-NaOH

A-None B-HCL  
 H = Sodium Bisulfate Solution  
 FILTERED? (YES/NO)

PRESERVATION (CODE)

ANALYSES REQUESTED  
 POLYMERIZATION/ORGANIC  
 POLYMERIZATION/MS-SEM  
 TOTAL # OF BOTTLES SENT

Page 1 of 1  
 P.O. # \_\_\_\_\_ Quote # \_\_\_\_\_  
 Mail Report To: Paul Moss  
 Company: FW EMC  
 Address: Lutkenow, Co  
 Invoice To: Curry Business  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Mail Invoice To: Guthrie, wife

CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)
4	
4 Archive	
4	
4	
4	
4 Archive	
4	
4 Archive	

Relinquished By:	Date/Time:	Received By:	Date/Time:
<u>[Signature]</u>	3-27-02 17:05	Fed Ex	920866
<u>Fed Ex</u>	3/22/02 1030	Ryle chowen	323143 KOI
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

En Chem Project No.  
 Sample Receipt Temp.  
 Sample Receipt #  
 (Wet/Metal) OK  
 Cooler Custody Sent  
 Present Not Present  
 Intact Not Intact

(Please Print Legibly)

Company Name: Foster Wheeler  
 Branch or Location: Denver  
 Project Contact: Pam Moss  
 Telephone: 303-980-3579  
 Project Number: 1980.0208.0100  
 Project Name: Roxanna Marsh  
 Project State: Indiana  
 Sampled By (Print): Bob Feldpausch

**Data Package Options**  
 (please circle if requested)  
 Results Only  
 EnChem Level III (Subject to Surcharge)  
 EnChem Level IV (Subject to Surcharge)

LABORATORY ID (Lab Use Only)	FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
920866-056	FW-RM-06-05-07-2.1	3-21	17:20	S
057	FW-RM-06-05-28-4.7	3-21	17:20	S
058	FW-RM-11-05-07-2.4	3-21	10:18	S
059	FW-RM-11-05-28-4.2	3-21	10:18	S
060	FW-RM-11-05-4.2-6.7	3-21	10:18	S
061	FW-RM-14-05-07-2.0	3-21	09:38	S
062	FW-RM-14-05-20-3.8	3-21	09:38	S
063	FW-RM-14-05-38-5.6	3-21	09:38	S

**Rush Turnaround Time Requested (TAT) - Prelim**  
 (Rush TAT subject to approval/surcharge)  
 Date Needed:  
 Transmit Prelim Rush Results by (circle):  
 Phone Fax E-Mail  
 Phone #:  
 Fax #:  
 E-Mail Address:  
 Samples on HOLD are subject to special pricing and release of liability



1241 Bellevue St., Suite 9  
 Green Bay, WI 54302  
 920-469-2436  
 FAX 920-469-8927

525 Science Drive  
 Madison, WI 53711  
 608-232-3800  
 FAX: 608-233-0802

# CHAIN OF CUSTODY

78319

Preservation Codes  
 A=None B=HCL C=H2SO4 D=HN03 E=Encore F=Methanol G=NaOH  
 H= Sodium Bisulfate Solution J= Other

FILTERED? (YES/NO)  
 PRESERVATION (CODE)\*

Page 1 of 1

RO. # \_\_\_\_\_ Quote # \_\_\_\_\_  
 Mail Report To: Pam Moss  
 Company: FWENC

Address: Lakeview CO  
 Invoice To: Gary Brink  
 Company: FWENC  
 Address: Bozell, WI

TOTAL # OF BOTTLES SENT

ANALYSES REQUESTED

CLIENT COMMENTS

LAB COMMENTS  
(Lab Use Only)

LABORATORY ID	FIELD ID	DATE	TIME	MATRIX	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)
920866-056	FW-RM-06-05-07-2.1	3-21	17:20	S	4	
057	FW-RM-06-05-28-4.7	3-21	17:20	S	4	
058	FW-RM-11-05-07-2.4	3-21	10:18	S	4	
059	FW-RM-11-05-28-4.2	3-21	10:18	S	4	
060	FW-RM-11-05-4.2-6.7	3-21	10:18	S	4	Archive
061	FW-RM-14-05-07-2.0	3-21	09:38	S	4	
062	FW-RM-14-05-20-3.8	3-21	09:38	S	4	
063	FW-RM-14-05-38-5.6	3-21	09:38	S	4	Archive

Relinquished By: [Signature] Date/Time: 3-21-02 17:00  
 Relinquished By: FedEx Date/Time: 3/22/02  
 Relinquished By: [Signature] Date/Time: 10:30  
 Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received By: FedEx Date/Time: 3/22/02 10:30  
 Received By: [Signature] Date/Time: 3/22/02 10:30  
 Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

En Chem Project No. 920866  
 Sample Receipt Temp. 33.3343 ROT  
 Sample Receipt pH (wet/metal) OK  
 Cooler Custody Seal [Signature] Not Present  
 Intact / Not Intact [Signature]

Batch No. 920866

### En Chem, Inc. Cooler Receipt Log

Project Name or ID Roxanna Marsh

No. of Coolers: 7 Temps: 3, 2, 3, 3, 1, 4, 3 °C

A. Receipt Phase: Date cooler was opened: 3/22/02 By: RJC

- 1: Were samples received on ice? (Must be ≤ 6 C).....  YES  NO<sup>2</sup>
- 2: Was there a Temperature Blank?.....  YES  NO
- 3: Were custody seals present and intact? (Record on COC).....  YES  NO
- 4: Are COC documents present?.....  YES  NO<sup>2</sup>
- 5: Does this Project require quick turn around analysis?..... YES  NO
- 6: Is there any sub-work?.....  YES  NO
- 7: Are there any short hold time tests?.....  YES  NO
- 8: Are any samples nearing expiration of hold-time? (Within 2 days)..... YES<sup>1</sup>  NO Contacted by/Who \_\_\_\_\_
- 9: Do any samples need to be Filtered or Preserved in the lab?..... YES<sup>1</sup>  NO Contacted by/Who \_\_\_\_\_

B. Check-in Phase: Date samples were Checked-in: 3/22/02 By: RJC

- 1: Were all sample containers listed on the COC received and intact?..... YES  NO<sup>2</sup> *broken lids - see NC RJC*
- 2: Sign the COC as received by En Chem. Completed.....  YES  NO
- 3: Do sample labels match the COC? .....  YES  NO<sup>2</sup>
- 4: Check sample pH of preserved samples. (Not VOCs) Completed.....  YES  NO  NA
- 5: Do samples have correct chemical preservation?.....  YES  NO<sup>2</sup>  NA
- 6: Are dissolved parameters field filtered?..... YES  NO<sup>2</sup>  NA
- 7: Are sample volumes adequate for tests requested? .....  YES  NO<sup>2</sup>
- 8: Are VOC samples free of bubbles >6mm ..... YES  NO<sup>2</sup>  NA
- 9: Enter samples into logbook. Completed.....  YES  NO
- 10: Place laboratory sample number on all containers and COC. Completed.....  YES  NO
- 11: Complete Laboratory Tracking Sheet (LTS). Completed.....  YES  NO  NA
- 12: Start Nonconformance form. ....  YES  NO  NA
- 13: Initiate Subcontracting procedure. Completed..... YES  NO  NA
- 14: Check laboratory sample number on all containers and COC. ....  YES  NO  NA

**Short Hold-time tests:**

48 Hours or less	7 days	Footnotes 1 Notify proper lab group immediately. 2 Complete nonconformance memo.
Coliform (6 hrs)	Flashpoint	
Hexavalent Chromium (24 Hrs)	TSS	
BOD	Total Solids	
Nitrite or Nitrate	TDS	
Low Level Mercury	Sulfide	
Ortho Phosphorus	Free Liquids	
Turbidity	Total Volatile Solids	
Surfactants	<u>Aqueous Extractable Organics- ALL</u>	
Sulfite	Unpreserved VOC's	
En Core Preservation	Ash	
Color		

Reviewed by/date MAZ/05

## - Analytical Report -

Project Name : ROXANNA MARSH

Submitter : FOSTER WHEELER

Project Number : 1980.0208.0100

Report Date : 4/23/02

Field ID : FW-RM-16-CS-0.7-2.0

Collection Date : 3/21/02

Lab Sample Number : 920866-053

Matrix Type : SOIL

Lab Project Number : 920866

WI DNR LAB ID : 113172950

### Semivolatile Organic Results

PAH LIST - SEMIVOLATILES

Prep Method: SW846 3550

Prep Date: 4/2/02

Analyte	Result	MDL	Units	Code	Analysis Date	Analysis Method
Acenaphthene	< 110	110	ug/kg		4/5/02	SW846 8270C
Acenaphthylene	< 96	96	ug/kg		4/5/02	SW846 8270C
Anthracene	< 68	68	ug/kg		4/5/02	SW846 8270C
Benzo(a)anthracene	< 97	97	ug/kg		4/5/02	SW846 8270C
Benzo(a)pyrene	< 74	74	ug/kg		4/5/02	SW846 8270C
Benzo(b)fluoranthene	< 130	130	ug/kg		4/5/02	SW846 8270C
Benzo(g,h,i)perylene	< 150	150	ug/kg		4/5/02	SW846 8270C
Benzo(k)fluoranthene	< 200	200	ug/kg		4/5/02	SW846 8270C
Chrysene	< 150	150	ug/kg		4/5/02	SW846 8270C
Dibenzo(a,h)anthracene	< 100	100	ug/kg		4/5/02	SW846 8270C
Fluoranthene	< 110	110	ug/kg		4/5/02	SW846 8270C
Fluorene	< 120	120	ug/kg		4/5/02	SW846 8270C
Indeno(1,2,3-cd)pyrene	< 240	240	ug/kg		4/5/02	SW846 8270C
Naphthalene	< 110	110	ug/kg		4/5/02	SW846 8270C
Phenanthrene	< 120	120	ug/kg		4/5/02	SW846 8270C
Pyrene	< 140	140	ug/kg		4/5/02	SW846 8270C

NOTE: N-Nitrosodiphenylamine cannot be separated from diphenylamine.

## - Analytical Report -

Project Name : ROXANNA MARSH

Submitter : FOSTER WHEELER

Project Number : 1980.0208.0100

Report Date : 4/23/02

Field ID : FW-RM-16-CS-2.0-3.5

Collection Date : 3/21/02

Lab Sample Number : 920866-054

Matrix Type : SOIL

Lab Project Number : 920866

WI DNR LAB ID : 113172950

### Semivolatile Organic Results

PAH LIST - SEMIVOLATILES

Prep Method: SW846 3550

Prep Date: 4/2/02

Analyte	Result	MDL	Units	Code	Analysis Date	Analysis Method
Acenaphthene	< 77	77	ug/kg		4/5/02	SW846 8270C
Acenaphthylene	< 69	69	ug/kg		4/5/02	SW846 8270C
Anthracene	< 49	49	ug/kg		4/5/02	SW846 8270C
Benzo(a)anthracene	< 69	69	ug/kg		4/5/02	SW846 8270C
Benzo(a)pyrene	< 53	53	ug/kg		4/5/02	SW846 8270C
Benzo(b)fluoranthene	< 94	94	ug/kg		4/5/02	SW846 8270C
Benzo(g,h,i)perylene	< 100	100	ug/kg		4/5/02	SW846 8270C
Benzo(k)fluoranthene	< 140	140	ug/kg		4/5/02	SW846 8270C
Chrysene	< 110	110	ug/kg		4/5/02	SW846 8270C
Dibenzo(a,h)anthracene	< 73	73	ug/kg		4/5/02	SW846 8270C
Fluoranthene	< 76	76	ug/kg		4/5/02	SW846 8270C
Fluorene	< 83	83	ug/kg		4/5/02	SW846 8270C
Indeno(1,2,3-cd)pyrene	< 170	170	ug/kg		4/5/02	SW846 8270C
Naphthalene	< 79	79	ug/kg		4/5/02	SW846 8270C
Phenanthrene	< 88	88	ug/kg		4/5/02	SW846 8270C
Pyrene	< 100	100	ug/kg		4/5/02	SW846 8270C

NOTE: N-Nitrosodiphenylamine cannot be separated from diphenylamine.

## - Analytical Report -

Project Name : ROXANNA MARSH

Submitter : FOSTER WHEELER

Project Number : 1980.0208.0100

Report Date : 4/23/02

Field ID : FW-RM-06-CS-0.7-2.3

Collection Date : 3/21/02

Lab Sample Number : 920866-056

Matrix Type : SOIL

Lab Project Number : 920866

WI DNR LAB ID : 113172950

### Semivolatile Organic Results

PAH LIST - SEMIVOLATILES

Prep Method: SW846 3550

Prep Date: 4/2/02

Analyte	Result	MDL	Units	Code	Analysis Date	Analysis Method
Acenaphthene	< 74	74	ug/kg		4/5/02	SW846 8270C
Acenaphthylene	< 65	65	ug/kg		4/5/02	SW846 8270C
Anthracene	< 46	46	ug/kg		4/5/02	SW846 8270C
Benzo(a)anthracene	170	66	ug/kg		4/5/02	SW846 8270C
Benzo(a)pyrene	150	50	ug/kg		4/5/02	SW846 8270C
Benzo(b)fluoranthene	530	89	ug/kg		4/5/02	SW846 8270C
Benzo(g,h,i)perylene	240	99	ug/kg		4/5/02	SW846 8270C
Benzo(k)fluoranthene	< 140	140	ug/kg		4/5/02	SW846 8270C
Chrysene	280	100	ug/kg		4/5/02	SW846 8270C
Dibenzo(a,h)anthracene	< 69	69	ug/kg		4/5/02	SW846 8270C
Fluoranthene	210	72	ug/kg		4/5/02	SW846 8270C
Fluorene	< 79	79	ug/kg		4/5/02	SW846 8270C
Indeno(1,2,3-cd)pyrene	220	160	ug/kg		4/5/02	SW846 8270C
Naphthalene	< 76	76	ug/kg		4/5/02	SW846 8270C
Phenanthrene	< 83	83	ug/kg		4/5/02	SW846 8270C
Pyrene	350	95	ug/kg		4/5/02	SW846 8270C

NOTE: N-Nitrosodiphenylamine cannot be separated from diphenylamine.

## - Analytical Report -

Project Name : ROXANNA MARSH

Submitter : FOSTER WHEELER

Project Number : 1980.0208.0100

Report Date : 4/23/02

Field ID : FW-RM-06-CS-2.8-4.7

Collection Date : 3/21/02

Lab Sample Number : 920866-057

Matrix Type : SOIL

Lab Project Number : 920866

WI DNR LAB ID : 113172950

### Semivolatile Organic Results

PAH LIST - SEMIVOLATILES

Prep Method: SW846 3550

Prep Date: 4/2/02

Analyte	Result	MDL	Units	Code	Analysis Date	Analysis Method
Acenaphthene	< 56	56	ug/kg		4/5/02	SW846 8270C
Acenaphthylene	< 50	50	ug/kg		4/5/02	SW846 8270C
Anthracene	< 35	35	ug/kg		4/5/02	SW846 8270C
Benzo(a)anthracene	< 50	50	ug/kg		4/5/02	SW846 8270C
Benzo(a)pyrene	< 38	38	ug/kg		4/5/02	SW846 8270C
Benzo(b)fluoranthene	< 68	68	ug/kg		4/5/02	SW846 8270C
Benzo(g,h,i)perylene	< 75	75	ug/kg		4/5/02	SW846 8270C
Benzo(k)fluoranthene	< 100	100	ug/kg		4/5/02	SW846 8270C
Chrysene	< 77	77	ug/kg		4/5/02	SW846 8270C
Dibenzo(a,h)anthracene	< 53	53	ug/kg		4/5/02	SW846 8270C
Fluoranthene	< 55	55	ug/kg		4/5/02	SW846 8270C
Fluorene	< 60	60	ug/kg		4/5/02	SW846 8270C
Indeno(1,2,3-cd)pyrene	< 120	120	ug/kg		4/5/02	SW846 8270C
Naphthalene	< 58	58	ug/kg		4/5/02	SW846 8270C
Phenanthrene	< 64	64	ug/kg		4/5/02	SW846 8270C
Pyrene	< 72	72	ug/kg		4/5/02	SW846 8270C

NOTE: N-Nitrosodiphenylamine cannot be separated from diphenylamine.

## - Analytical Report -

Project Name : ROXANNA MARSH

Submitter : FOSTER WHEELER

Project Number : 1980.0208.0100

Report Date : 4/23/02

Field ID : FW-RM-11-CS-0.7-2.4

Collection Date : 3/21/02

Lab Sample Number : 920866-058

Matrix Type : SOIL

Lab Project Number : 920866

WI DNR LAB ID : 113172950

### Semivolatile Organic Results

PAH LIST - SEMIVOLATILES

Prep Method: SW846 3550

Prep Date: 4/2/02

Analyte	Result	MDL	Units	Code	Analysis Date	Analysis Method
Acenaphthene	< 100	100	ug/kg		4/5/02	SW846 8270C
Acenaphthylene	< 88	88	ug/kg		4/5/02	SW846 8270C
Anthracene	< 63	63	ug/kg		4/5/02	SW846 8270C
Benzo(a)anthracene	< 89	89	ug/kg		4/5/02	SW846 8270C
Benzo(a)pyrene	< 68	68	ug/kg		4/5/02	SW846 8270C
Benzo(b)fluoranthene	< 120	120	ug/kg		4/5/02	SW846 8270C
Benzo(g,h,i)perylene	< 130	130	ug/kg		4/5/02	SW846 8270C
Benzo(k)fluoranthene	< 180	180	ug/kg		4/5/02	SW846 8270C
Chrysene	< 140	140	ug/kg		4/5/02	SW846 8270C
Dibenzo(a,h)anthracene	< 94	94	ug/kg		4/5/02	SW846 8270C
Fluoranthene	< 97	97	ug/kg		4/5/02	SW846 8270C
Fluorene	< 110	110	ug/kg		4/5/02	SW846 8270C
Indeno(1,2,3-cd)pyrene	< 220	220	ug/kg		4/5/02	SW846 8270C
Naphthalene	< 100	100	ug/kg		4/5/02	SW846 8270C
Phenanthrene	< 110	110	ug/kg		4/5/02	SW846 8270C
Pyrene	< 130	130	ug/kg		4/5/02	SW846 8270C

NOTE: N-Nitrosodiphenylamine cannot be separated from diphenylamine.

## - Analytical Report -

Project Name : ROXANNA MARSH

Submitter : FOSTER WHEELER

Project Number : 1980.0208.0100

Report Date : 4/23/02

Field ID : FW-RM-11-CS-2.4.4.2

Collection Date : 3/21/02

Lab Sample Number : 920866-059

Matrix Type : SOIL

Lab Project Number : 920866

WI DNR LAB ID : 113172950

### Semivolatile Organic Results

PAH LIST - SEMIVOLATILES

Prep Method: SW846 3550

Prep Date: 4/2/02

Analyte	Result	MDL	Units	Code	Analysis Date	Analysis Method
Acenaphthene	< 66	66	ug/kg		4/5/02	SW846 8270C
Acenaphthylene	< 58	58	ug/kg		4/5/02	SW846 8270C
Anthracene	< 41	41	ug/kg		4/5/02	SW846 8270C
Benzo(a)anthracene	< 59	59	ug/kg		4/5/02	SW846 8270C
Benzo(a)pyrene	< 45	45	ug/kg		4/5/02	SW846 8270C
Benzo(b)fluoranthene	< 80	80	ug/kg		4/5/02	SW846 8270C
Benzo(g,h,i)perylene	< 88	88	ug/kg		4/5/02	SW846 8270C
Benzo(k)fluoranthene	< 120	120	ug/kg		4/5/02	SW846 8270C
Chrysene	< 90	90	ug/kg		4/5/02	SW846 8270C
Dibenzo(a,h)anthracene	< 62	62	ug/kg		4/5/02	SW846 8270C
Fluoranthene	< 64	64	ug/kg		4/5/02	SW846 8270C
Fluorene	< 71	71	ug/kg		4/5/02	SW846 8270C
Indeno(1,2,3-cd)pyrene	< 140	140	ug/kg		4/5/02	SW846 8270C
Naphthalene	< 67	67	ug/kg		4/5/02	SW846 8270C
Phenanthrene	< 74	74	ug/kg		4/5/02	SW846 8270C
Pyrene	< 85	85	ug/kg		4/5/02	SW846 8270C

NOTE: N-Nitrosodiphenylamine cannot be separated from diphenylamine.

## - Analytical Report -

Project Name : ROXANNA MARSH

Submitter : FOSTER WHEELER

Project Number : 1980.0208.0100

Report Date : 4/23/02

Field ID : FW-RM-14-CS-0.7-2.0

Collection Date : 3/21/02

Lab Sample Number : 920866-061

Matrix Type : SOIL

Lab Project Number : 920866

WI DNR LAB ID : 113172950

### Semivolatile Organic Results

PAH LIST - SEMIVOLATILES

Prep Method: SW846 3550

Prep Date: 4/2/02

Analyte	Result	MDL	Units	Code	Analysis Date	Analysis Method
Acenaphthene	< 120	120	ug/kg		4/6/02	SW846 8270C
Acenaphthylene	< 100	100	ug/kg		4/6/02	SW846 8270C
Anthracene	< 73	73	ug/kg		4/6/02	SW846 8270C
Benzo(a)anthracene	130	100	ug/kg		4/6/02	SW846 8270C
Benzo(a)pyrene	95	79	ug/kg		4/6/02	SW846 8270C
Benzo(b)fluoranthene	550	140	ug/kg		4/6/02	SW846 8270C
Benzo(g,h,i)perylene	< 160	160	ug/kg		4/6/02	SW846 8270C
Benzo(k)fluoranthene	< 210	210	ug/kg		4/6/02	SW846 8270C
Chrysene	230	160	ug/kg		4/6/02	SW846 8270C
Dibenzo(a,h)anthracene	< 110	110	ug/kg		4/6/02	SW846 8270C
Fluoranthene	240	110	ug/kg		4/6/02	SW846 8270C
Fluorene	< 120	120	ug/kg		4/6/02	SW846 8270C
Indeno(1,2,3-cd)pyrene	< 250	250	ug/kg		4/6/02	SW846 8270C
Naphthalene	< 120	120	ug/kg		4/6/02	SW846 8270C
Phenanthrene	160	130	ug/kg		4/6/02	SW846 8270C
Pyrene	310	150	ug/kg		4/6/02	SW846 8270C

NOTE: N-Nitrosodiphenylamine cannot be separated from diphenylamine.

## - Analytical Report -

Project Name : ROXANNA MARSH

Submitter : FOSTER WHEELER

Project Number : 1980.0208.0100

Report Date : 4/23/02

Field ID : FW-RM-14-CS-2.0-3.8

Collection Date : 3/21/02

Lab Sample Number : 920866-062

Matrix Type : SOIL

Lab Project Number : 920866

WI DNR LAB ID : 113172950

### Semivolatile Organic Results

PAH LIST - SEMIVOLATILES

Prep Method: SW846 3550

Prep Date: 4/2/02

Analyte	Result	MDL	Units	Code	Analysis Date	Analysis Method
Acenaphthene	< 84	84	ug/kg		4/6/02	SW846 8270C
Acenaphthylene	< 74	74	ug/kg		4/6/02	SW846 8270C
Anthracene	< 53	53	ug/kg		4/6/02	SW846 8270C
Benzo(a)anthracene	< 75	75	ug/kg		4/6/02	SW846 8270C
Benzo(a)pyrene	< 57	57	ug/kg		4/6/02	SW846 8270C
Benzo(b)fluoranthene	< 100	100	ug/kg		4/6/02	SW846 8270C
Benzo(g,h,i)perylene	< 110	110	ug/kg		4/6/02	SW846 8270C
Benzo(k)fluoranthene	< 150	150	ug/kg		4/6/02	SW846 8270C
Chrysene	< 110	110	ug/kg		4/6/02	SW846 8270C
Dibenzo(a,h)anthracene	< 79	79	ug/kg		4/6/02	SW846 8270C
Fluoranthene	< 82	82	ug/kg		4/6/02	SW846 8270C
Fluorene	< 90	90	ug/kg		4/6/02	SW846 8270C
Indeno(1,2,3-cd)pyrene	< 180	180	ug/kg		4/6/02	SW846 8270C
Naphthalene	< 86	86	ug/kg		4/6/02	SW846 8270C
Phenanthrene	< 95	95	ug/kg		4/6/02	SW846 8270C
Pyrene	< 110	110	ug/kg		4/6/02	SW846 8270C

NOTE: N-Nitrosodiphenylamine cannot be separated from diphenylamine.